

Plaintiffs' Exhibit 16

(Redacted)

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF VIRGINIA

3 Civil Action No: 1:23-cv-00108-LMB-JFA

4 UNITED STATES, et al.,

5 Plaintiffs,

6 v.

7 GOOGLE LLC,

8 Defendant.

9 CONFIDENTIAL VIDEOTAPED DEPOSITION OF TIM CRAYCROFT

10 August 15, 2023

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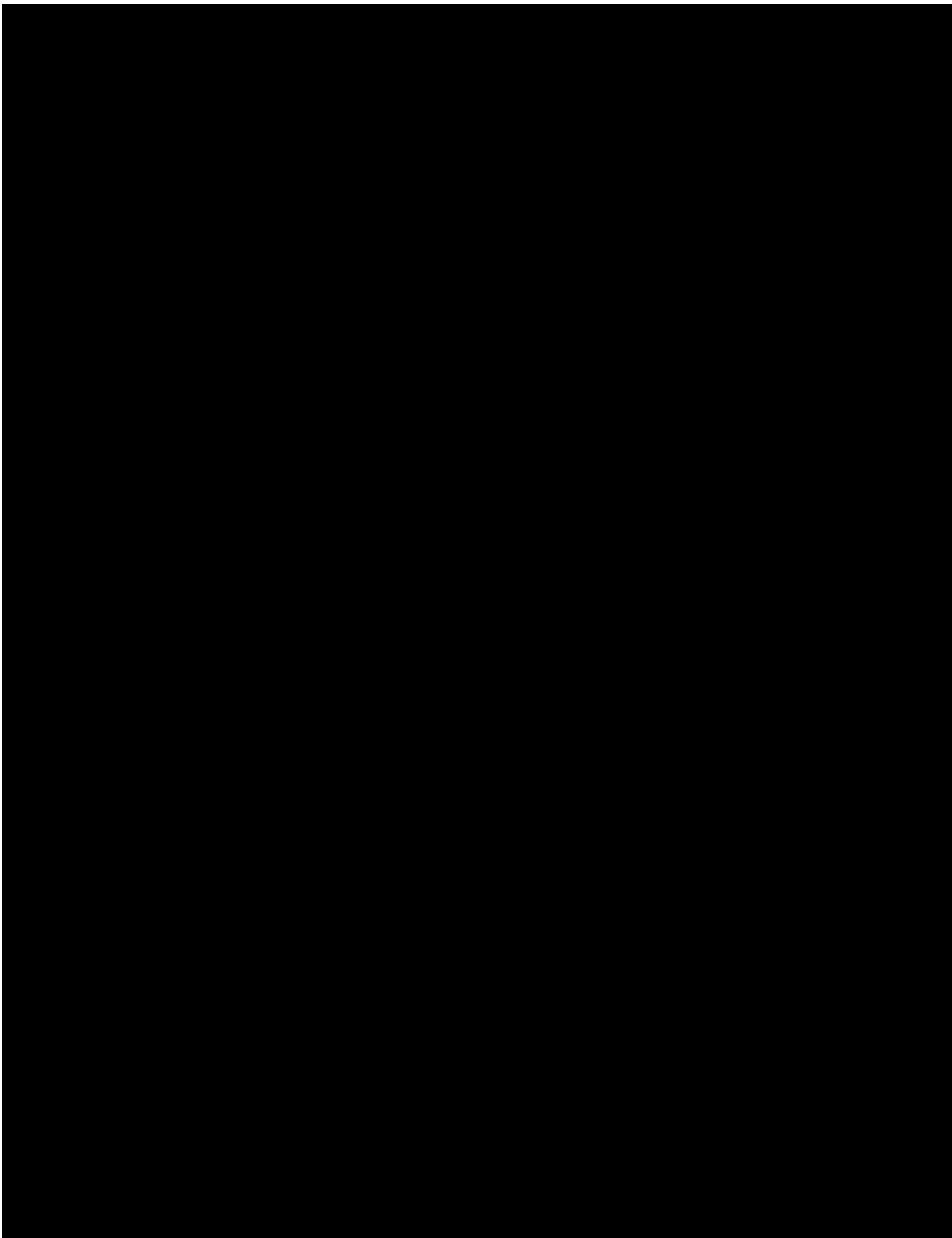
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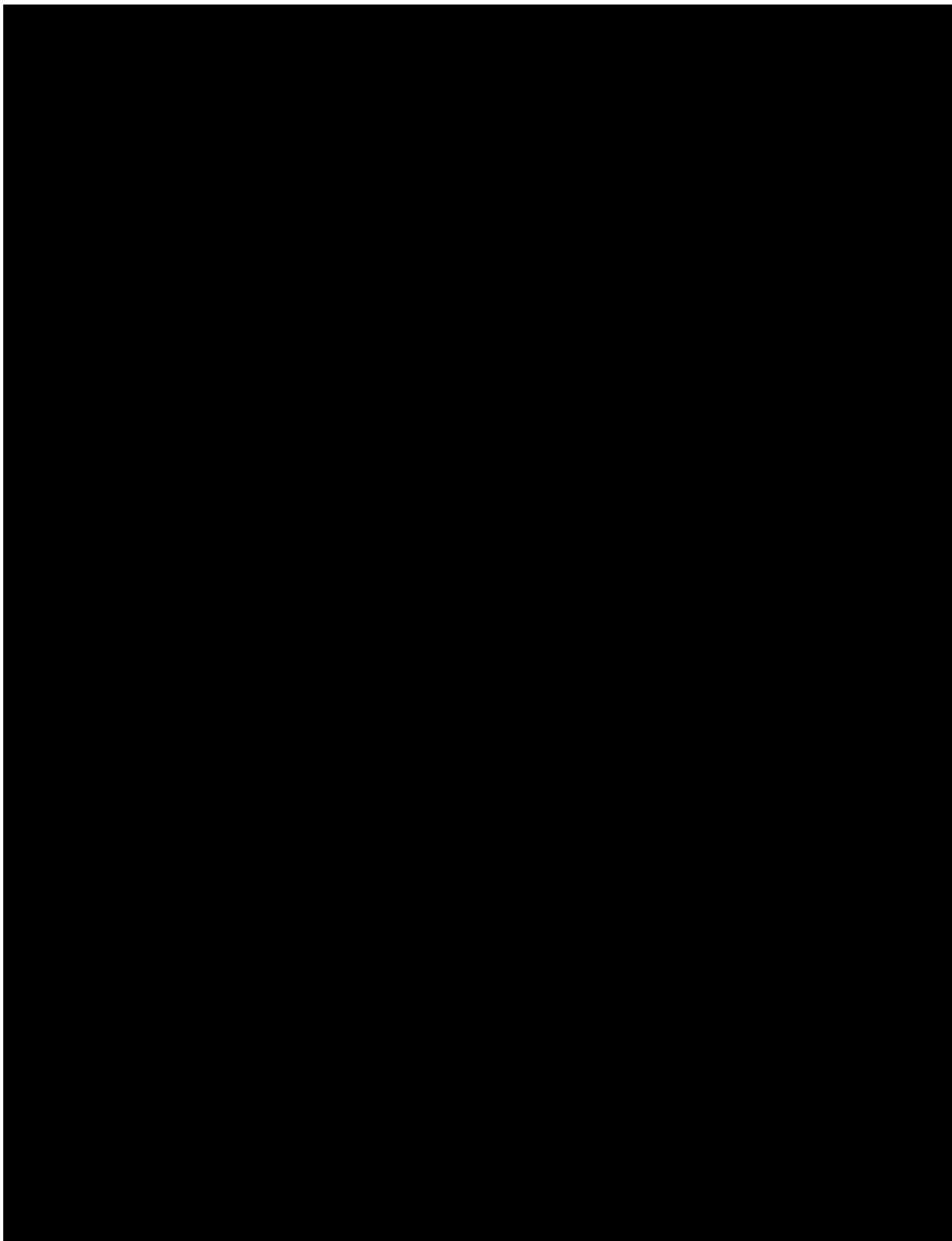
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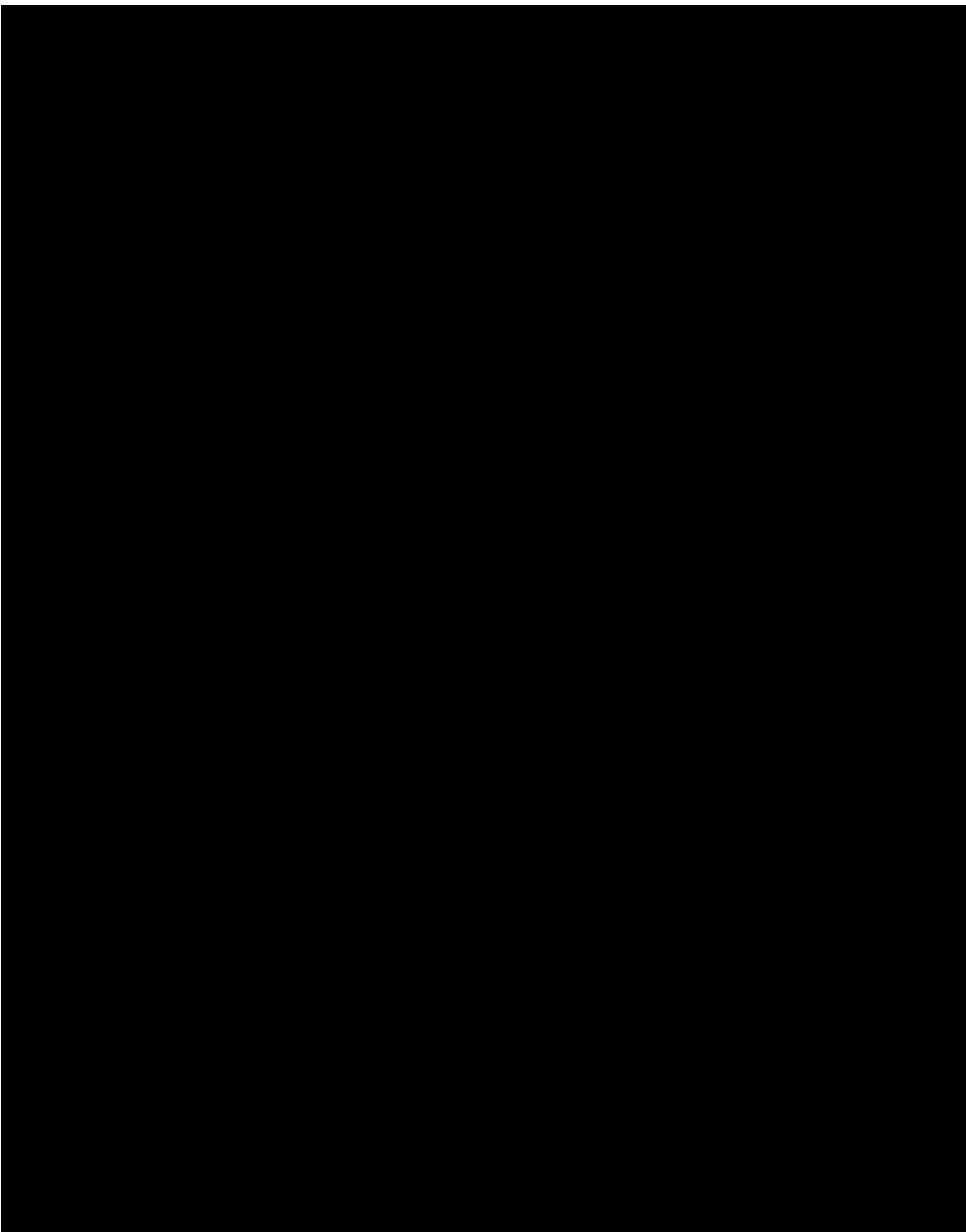
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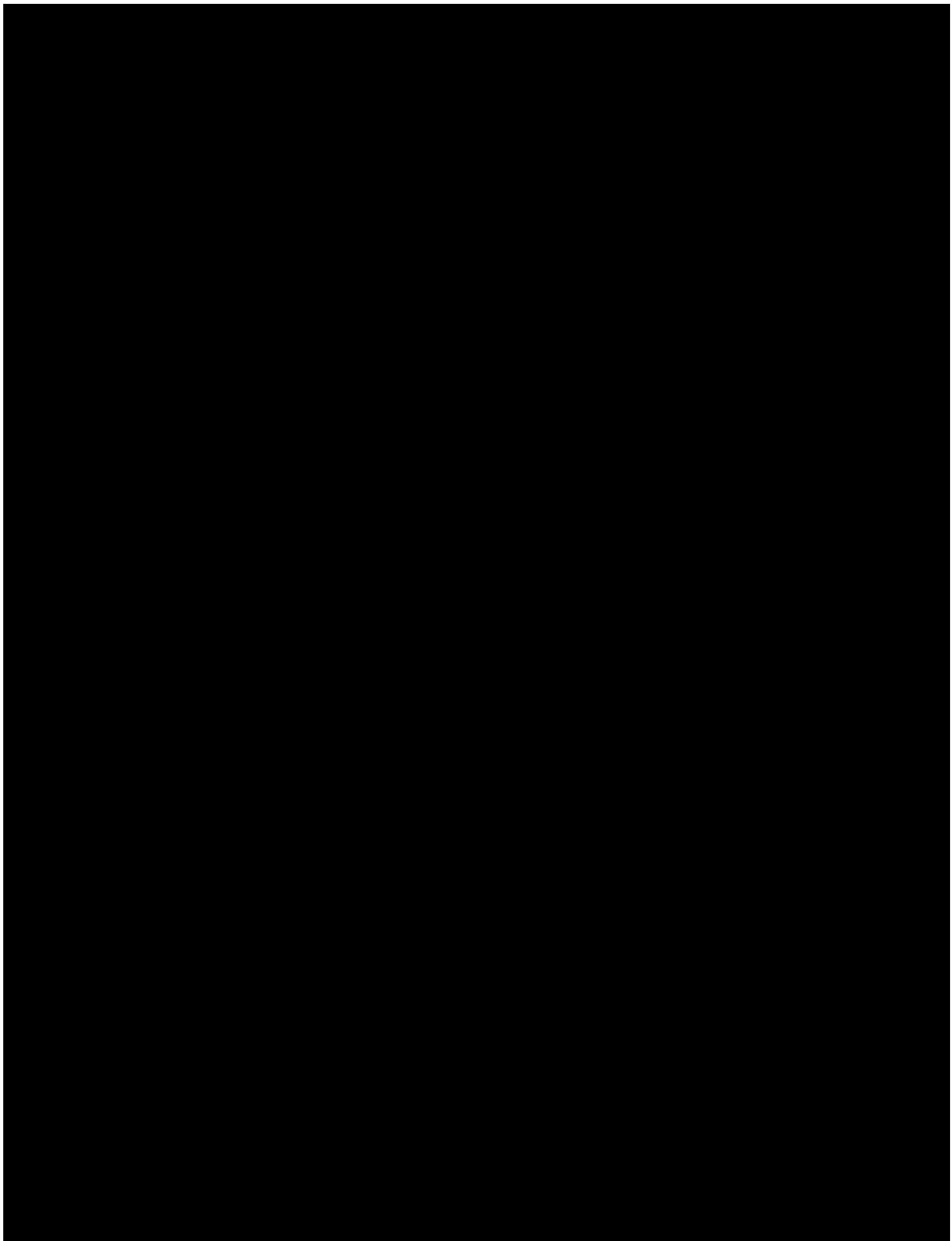
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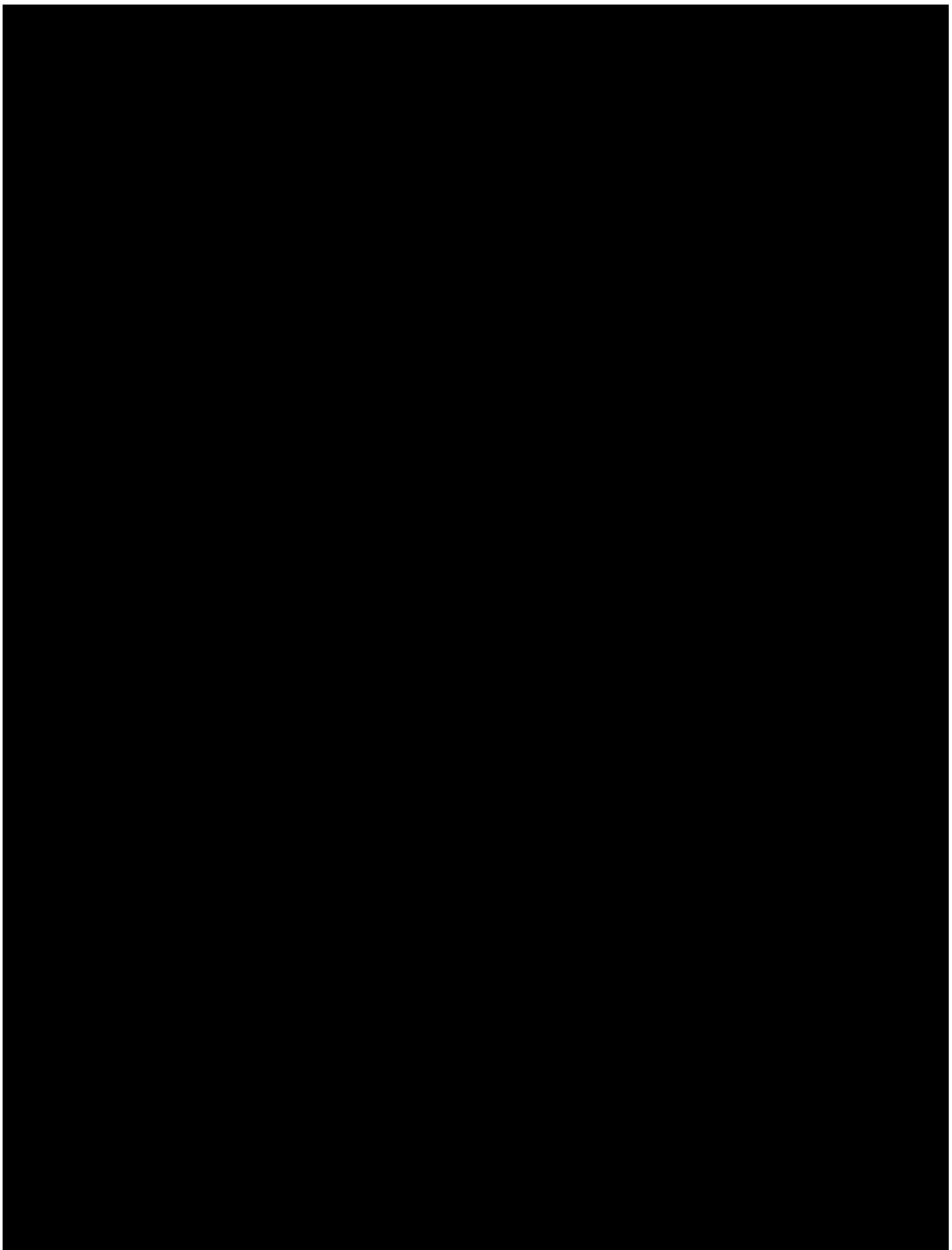
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11 Q. I know we talked about Quarter 2 2021
12 alone. Has Google Display ads continued to grow even
13 after Quarter 2 of 2021?

14 A. If I recall, yes, through the rest of
15 2021 and some of 2022.

16 These numbers are much higher than --
17 growth now, because this -- remember what was
18 happening in -- these are year-over-year numbers, and
19 remember what was happening in the world Q2 2020? So
20 these are comparing to big drops the prior year.

21 So these growth rates are not
22 reflective of what's normal for the Display business.

23 The Display business this year is
24 declining modestly year over year.

25 Q. What do you attribute that to?

16 MS. SESSIONS: I'm sorry. Can you just
17 ask that full question again, please?

1 A. Tough economy. Less growth in
2 post-COVID of consumer digital behavior. During
3 COVID, everyone went online, spent a lot more time
4 online. So the supply side has stopped growing as
5 well at the rate that it did during COVID.

6 Q. Has there been a change in consumer
7 behavior, meaning transitioning more to phone or
8 video?

9 A. Yeah --

10 MS. SESSIONS: Object to the form.

11 A. Yeah. We certainly see continued user
12 attention spent more in apps than on the web.

7 Q. (By Mr. Freeman) Since you've been at
8 Google, to your knowledge, has Amazon developed and
9 implemented a AdX competitor?

10 A. AdX, not DFP?

11 Q. Correct.

12 A. No.

13 There are -- anyway, there -- there are
14 many public job listings, even in the press
15 yesterday, for Amazon investing in building some sort
16 of publisher ad infrastructure. But I don't know
17 exactly what it is.

18 Q. Your information now about what Amazon
19 is doing is just publicly related information?

20 A. Yep.

21 Q. Do you remember particularly what
22 source that was that you read?

23 A. It was just -- it was in trade press.
24 I don't know which one, but it's all just links to
25 the Amazon job site.

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7 **Q. Do you know how the price that they
8 agreed on was reached?**

9 A. No idea.

10 **Q. I know we talked about this, I think,
11 in the morning, about -- about last look.**

12 **Are you aware of whether Google ever
13 implemented last look?**

14 A. Nope.

15 **Q. Are you familiar with the term Admeld,
16 meaning A-d-m-e-l-d?**

17 A. It was a company, I believe, that
18 Google acquired.

19 **Q. Do you know why they acquired them?**

20 A. I don't remember.

21 **Q. Did that predate your time there?**

22 A. Yeah.

23 **Q. Do you know the term or project,
24 Project Bell, B-e-l-l?**

25 A. No, I don't.

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1 There's a concept called pacing and
2 you -- for those direct sold demands that are
3 contractually committed, the ad server -- it says,
4 I've got a week to deliver a million impressions.
5 The advertiser wants them to deliver smoothly by day.
6 They don't want me to deliver seven days of
7 impressions in one day. They want to spread them out
8 evenly. So the ad server's keeping track of that.

9 And if something's under-pacing, so
10 we're behind schedule in delivering on that
11 contractual commitment, that potentially lower price
12 contracted fixed-price ad may serve instead of the
13 higher-priced ad that comes in from the exchange.

14 That's the dynamic allocation, rather
15 than a simple sorting of prices.

16 **Q. Are you familiar with the term
17 "realtime bidding"?**

18 A. Yes.

19 **Q. What does that mean?**

20 A. Realtime bidding is how ad exchanges
21 offer up the opportunity for many -- multiple buying
22 platforms, tens or hundreds, commonly, on every
23 single potential impression to bid for a potential
24 impression on a publisher website or app.

25 **Q. And I think you mentioned this in the**

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1 **Q. What about Project Poirot, meaning
2 P-o-i-r-o-t?**

3 A. I know I've seen that name. I don't
4 know what it means, though.

5 **Q. Do you know the phrase "dynamic
6 allocation"?**

7 A. Yes.

8 **Q. What's your understanding of dynamic
9 allocation?**

10 A. I explained this in our prior session.

11 Large publishers monetize through a mix of direct
12 sold and then indirect demand that comes in through
13 the exchange.

14 The direct sold demand is typically a
15 contract to deliver a certain amount -- number of
16 impressions at a certain price.

17 Quite often, you'll have indirect
18 demand coming in from the exchange that's bidding
19 higher than those contracted fixed prices. And there
20 will be cases where you will choose to serve the
21 lower-priced ad that was contractually committed
22 because it's contractually committed to deliver a
23 certain amount by a certain date, even though, if you
24 were to ignore that, the publisher could make more
25 money by letting in an ad from the exchange.

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1 **morning, but was there a period of time where
2 auctions were done by what was commonly referred to
3 as "waterfall"?**

4 A. Yes.

5 **Q. Can you describe to me the difference
6 between realtime bidding versus waterfall?**

7 A. Realtime bidding is letting multiple
8 demand sources, many DSPs, and then the many, many
9 advertisers using those DSPs -- so it's hundreds,
10 thousands of advertisers -- to compete in parallel
11 for a given impression.

12 Whereas a waterfall is -- you would
13 take each demand source -- in the pre-DSP days, it
14 would be an ad network that had aggregated advertiser
15 demand -- and you would put them in the order you
16 think would -- who would most often pay the most for
17 ad impressions, and then the next most, the next
18 most.

19 And so if ad network A that you
20 scheduled first in mediation couldn't fill an ad
21 impression, the waterfall goes to the next one and
22 goes to the next one. And the art and science of
23 that is learning what order to put them in.

24 **Q. Is waterfall still implemented today?**

25 A. I'm not aware of it in the web.

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1 MS. SESSIONS: I have no additional
2 questions.
3 We would like to mark the transcript as
4 highly confidential pursuant to the protective order,
5 and we would like to read and sign, please.
6 MR. FREEMAN: Okay.
7 THE VIDEOGRAPHER: Going off the record
8 at 2:47. This marks the end of Media 4 of 4.
9 The foregoing deposition was concluded
10 at the hour of 2:47 p.m. Total time on the record
11 was 3 hours and 46 minutes.
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1 I, Tim Craycroft, the deponent in the
2 above deposition, do hereby acknowledge that I have
3 read the foregoing transcript of my testimony, and
4 state under oath that it, together with any attached
5 Amendment to Deposition pages, constitutes my sworn
6 testimony.

8 _____ I have made changes to my deposition
9 I have NOT made any changes to my deposition

Tim Craycroft

14 MR. FREEMAN: That's all we have for
15 you today. Thank you.

16 THE DEPONENT: Okay.

17 MS. SESSIONS: I just have one
18 follow-up question --

19 THE DEONENT: Shoot.

20 MS. SESSIONS: -- for you.

21 EXAMINATION

22 BY MS. SESSIONS:

Subscribed and sworn to before me this

day of _____, 20_____.
(Handwritten date)

My Commission expires: _____

Notary Public

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1 REPORTER'S CERTIFICATE

2

3 I, Matthew R. Moss, a Registered Professional
4 Reporter, Federal Certified Realtime Reporter, and
5 Notary Public within and for the State of Colorado,
6 commissioned to administer oaths, do hereby certify
7 that previous to the commencement of the examination,
8 the witness was duly sworn by me to testify the truth
9 in relation to matters in controversy between the said
10 parties; that the said deposition was taken in
11 stenotype by me at the time and place aforesaid and
12 was thereafter reduced to typewritten form by me; and
13 that the foregoing is a true and correct transcript of
14 my stenotype notes thereof.

15 That I am not an attorney nor counsel nor
16 in any way connected with any attorney or counsel for
17 any of the parties to said action nor otherwise
18 interested in the outcome of this action.

19 My commission expires: April 28, 2025.

20

Matthew Moss

21 MATTHEW R. MOSS

22 Registered Professional Reporter
23 Federal Certified Realtime Reporter
24 and Notary Public

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ERRATA SHEET FOR THE TRANSCRIPT OF TIM CRAYCROFT

Case Name: In Re: Google Antitrust Investigation

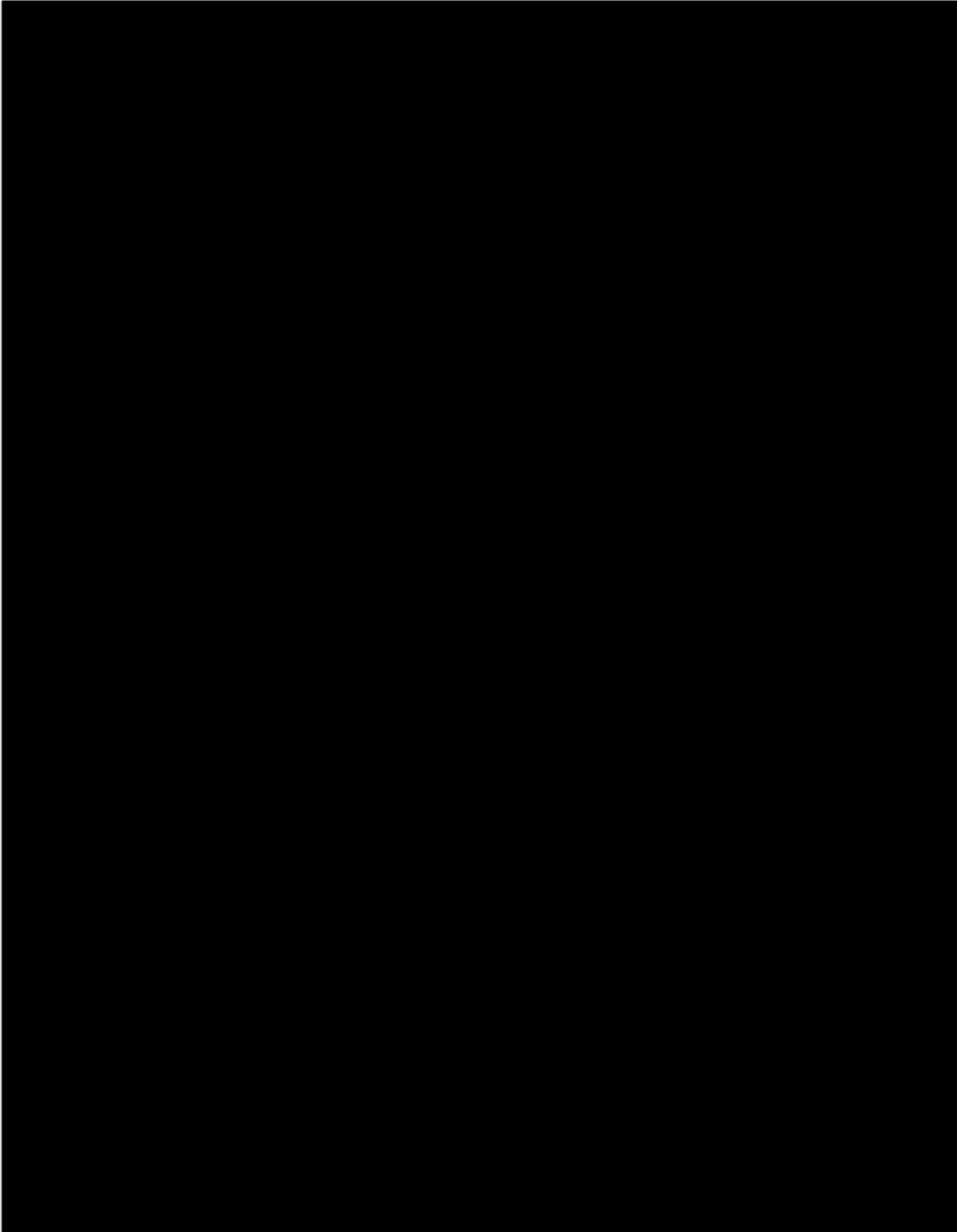
Dep. Date: August 15, 2023

Deponent: Tim Craycroft

Page	Line	Correction	Reason for Correction

HIGHLY CONFIDENTIAL

Page	Line	Correction	Reason for Correction
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Page	Line	Correction	Reason for Correction
126	5	Change “of” to “at”	Transcription error
160	6	Change “define” to “explain”	Transcription error
160	20	Change “as well as” to “as well as things like”	Transcription error
168	24	Change “T-row” to “tROAS”	Transcription error
169	3	Change “on” to “to”	Transcription error

HIGHLY CONFIDENTIAL

I have inspected and read my deposition and have listed all changes and corrections above, along with my reasons therefore.

Date:

9/8/23

Signature:

